



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,990	03/12/2004	Wynn Peter Holloway	P451	8785

7590 03/16/2007
PAUL E. MILLIKEN
9061 WALL STREET, NW
MASSILLON, OH 44646-1676

EXAMINER

CAJILIG, CHRISTINE T

ART UNIT	PAPER NUMBER
----------	--------------

3637

MAIL DATE	DELIVERY MODE
-----------	---------------

03/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/799,990	Applicant(s) HOLLOWAY, WYNN PETER	
	Examiner Christine T. Cajilig	Art Unit 3637	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 28 February 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 6 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ They raise the issue of new matter (see NOTE below);
- (c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See note for item 3 on attached sheet. (See 37 CFR 1.116 and 41.33(a)).

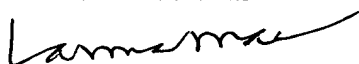
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:
- Claim(s) allowed: _____.
- Claim(s) objected to: _____.
- Claim(s) rejected: 3-7 and 11-17.
- Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☒ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See note for item 11 on the attached sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.


LANNA MAI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

Art Unit: 3637

Note for box item 3:

The proposed amendment to claim 18 raises new issues for consideration and possible further search.

Note for box item 11:

The Applicant's argument appears to be directed to the language of claim 15 as currently proposed within the After-Final amendment, and thus does not serve to place the Application in condition for allowance.

10/799,990

ENCLOSURE (A)

AMENDMENT "B" MARKED UP SPECIFICATION

NOT ENTERED
ETC
3/15/07

5 [0005] Many attempts have been made to produce composite beams which do not bend under their own weight. Composite beams are described in US Patent 4191,000 in which the top and bottom timber flanges are connected by a plywood web. In a further development shown in US Patent 6460,310, the flanges are formed from laminated wood and include a fibre reinforcement. The flanges may be interconnected by two spaced apart webs of plywood or OSB(oriented strand board). French patent application FR-A-2691,993 again describes a composite beam having laminated wood flanges including reinforcing layers and a web comprising two spaced apart wooden or metal panels.

15 [0009] As defined herein, plywood consists of layers or plies having adjacent plies with mutually perpendicular grain. The mutually perpendicular adjacent plies produce an extremely rigid material in directions within the plane of the wood.

10/799,990

ENCLOSURE (B)

AMENDMENT "B" MARKED UP CLAIMS

What is claimed is:

1. (cancelled)

2. (cancelled)

3. (previously presented) A beam as claimed in Claim 15, wherein each plywood flange had a width that extends beyond the web on each side thereof by about 1/3 of the respective width.

4. (cancelled)

5. (previously presented) A beam as claimed in Claim 15, wherein the side walls are formed from a lesser thickness material than the material of the flanges.

6. (previously presented) A beam as claimed in Claim 15, wherein the core comprises a plurality of layers of corrugated paper or cardboard which are each coated in a suitable adhesive and laminated together.

7. (original) A beam as claimed in Claim 6, wherein the corrugations in the different layers of the core all run in the same direction.

8. (cancelled)

9. (cancelled)

10. (cancelled)

11. (previously presented) A beam as claimed in Claim 3, wherein the cavity within the web has a transverse width of between 20-35% of the width of the flanges.

12. (previously presented) A beam as claimed in Claim 15 and further including a plurality of dowels mounted on the web and spaced longitudinally along its length.

13. (previously presented) A building panel having a rectangular frame with both faces covered in board material, the frame comprising top and bottom rails which are joined together by a plurality of spaced apart wood composite "I" beams as claimed in Claim 15 extending therebetween.

14. (previously presented) A building panel having a rectangular frame with both faces covered in board material, the frame comprising top and bottom rails which are joined together by a plurality of spaced apart wood composite beams extending therebetween, the beams comprising outer beams with inner beams spaced therebetween, the outer beams being beams in accordance with Claim 12.

15. (currently amended) A wooden composite I beam having upper and lower plywood (as defined herein) flanges interconnected by a web comprising a pair of spaced apart planar plywood side walls having a cavity therebetween, the ~~sidewall being formed from wood or wood derivative materials~~ with the cavity within the web being filled with a core of corrugated paper or corrugated cardboard, the core being adhered to the surrounding flanges and walls.

16. (previously presented) A beam as claimed in claims 15, wherein the plywood flanges comprise veneers of wood with each flange having an outer veneer with the wood grain in the outer veneer extending longitudinally of the beam.

17. (previously presented) A beam as claimed in claim 11, wherein the cavity within the web has a transverse width of between 25-35%.

BEST AVAILABLE COPY

FROM : MILLIKEN PATENT & TM LAW

FAX NO. : 330 830 0266

Mar. 01 2007 10:41AM P10

NOT ENTERED
CFC
3/15/07

Page 1 of 1

ENCLOSURE (C)



What's Microlam or LVL?

You are here: [About Home & Garden > Home Renovations](#)

About: Home Renovations

What's Microlam or LVL?

From Lee Wallender,
Your Guide to Home Renovations,
FREE Newsletter. Sign Up Now!
Microlam is a term you hear banded around a lot when doing home renovations. Microlam, also known as Laminated Veneer Lumber or Weyerhaeuser's brand name of Glulam, is a fairly recent development in construction.
Thursday February 8, 2007 ([comments \(0\)](#))

[Email to a Friend](#) | [Submit to Digg](#)

[Digg](#) | [Delicious](#) | [StumbleUpon](#) | [Technorati](#) | [Bloglines](#) | [Feedburner](#)

[Main](#)

BEST AVAILABLE COPY

ENCLOSURE (D)

APA - The Engineered Wood Association

Page 1 of 4

GLOSSARY OF ENGINEERING WOOD TERMS



Close Window

STRUCTURAL WOOD PANELS

Structural Plywood: The original structural wood panel, plywood consists of veneers arranged in perpendicular layers. The layers may consist of a single veneer ply or two or more plies laminated with the grain running in the same direction. There are always an odd number of layers, with the grain of the face layers typically oriented parallel to the long dimension of the panel. It is the cross-laminated layup of layers of veneer that gives plywood its excellent strength, stiffness and dimensional stability. In addition to a variety of sheathing, siding, sanded and concrete form grades, many manufacturers can produce custom layouts for specialized applications.

Oriented Strand Board: OSB consists of wood strands bonded with adhesives to form a mat. Like the veneer in plywood, these mats are layered and oriented for maximum strength, stiffness and stability. The individual strands are typically three to four inches long. OSB is widely used as construction sheathing, as the web material for wood I-joists, as the structural membranes of structural insulated panels (SIPs), and in a growing number of other applications.

Structural Composite Panels: Structural composite panels (the APA tradename is COM-PLY) consist of veneer faces bonded to a wood-base core material, such as OSB. Composite panels are manufactured in three- or five-layer arrangements. A three-layer panel has a wood fiber core and a veneer face and back, while a five-layer panel also has a veneer crossband in the center. When manufactured in a one-step pressing operation, voids in the veneers are filled automatically by the particles or strands as the panel is pressed in the bonding process. Typical composite panel applications include sheathing, siding and industrial applications.

GLUED LAMINATED TIMBER (GLULAM)

Glulam is an engineered stress-rated product created by bonding together individual pieces of lumber having a thickness of two inches (50 mm) or less. Individual pieces of lumber are end-joined together to create long lengths referred to as laminations. These laminations are then face-bonded together to create the finished product. Glulam is also among the most versatile of the engineered wood products. It can be shaped into forms ranging from straight beams to complex curved members, and is used in a wide variety of residential and nonresidential building construction applications, including headers, floor girders, ridge beams and purlins, cantilever beam systems, arches, domes and exposed applications such as bridges, marinas and utility structures.

STRUCTURAL COMPOSITE LUMBER

Laminated Veneer Lumber (LVL): LVL is the most widely used of the structural composite lumber products. It is produced by bonding thin wood veneers together in a large billet. The grain of all veneers is parallel to the long direction. The LVL billet is then sawn to desired dimensions depending on the construction application. Some of the product's many uses are headers and beams, hip and valley rafters, scaffold planking, and the flange material for prefabricated wood I-joists.

Parallel Strand Lumber (PSL): PSL consists of long veneer strands laid in parallel formation and bonded together with an adhesive to form the finished structural section. Like LVL and glulams, this product is used for beam and header applications where high bending strength is needed. PSL is also frequently used as load-bearing columns.

Oriented Strand Lumber (OSL): Similar to PSL, oriented strand lumber is made from flaked wood strands that have a high length-to-thickness ratio. Combined with an adhesive, the strands are oriented and formed into a large mat or billet and pressed. OSL is used in a variety of applications from studs to millwork components.

PREFABRICATED WOOD I-JOISTS

Also referred to as I-beams, wood I-joists are structural, load-carrying products. I-joists are typically available in long lengths and because they are very lightweight, they can be easily handled at the jobsite without the need for costly handling equipment. Their "I" configuration provides high bending strength and stiffness characteristics. The top and bottom flange material for I-joists is typically dimension lumber or laminated veneer lumber; the web material is OSB or plywood. Prefabricated wood I-joists are used extensively in residential construction for both floor and roof framing and are among the fastest-growing of the glued engineered wood products.

© 2007 APA - The Engineered Wood Association. All Rights Reserved.

BEST AVAILABLE COPY

2 of 4

Plywood- The Original Engineered Wood Product



Manufactured from thin sheets of cross-laminated veneer and bonded under heat and pressure with strong adhesives, plywood has been one of the most ubiquitous building products for decades.

A Wide Range of Products

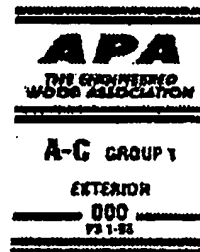
Plywood manufactured by APA member mills is available in a wide variety of appearance grades ranging from smooth, natural surfaces suitable for finish work and underlayment to more economical grades used for wall sheathing and subfloors. With more than a dozen common thicknesses and over twenty different grades, it's easy to specify the right panel for the job.

For Detailed and Technical Information

If you're looking for detailed and technical information on plywood, you may wish to jump directly to the **plywood section of the Publications Store**. Here you will find a complete listing of all APA publications featuring plywood, including case studies, technical sheets, builder tips and more. Many of these publications can be immediately downloaded for free. This section is searchable by keyword.

The APA Mark of Quality

APA trademarks appear only on products manufactured by APA member mills. The mark signifies that panel quality is subject to verification through APA audit— a procedure designed to assure manufacture in conformance with APA performance standards or the standard shown in the mark.



Related Publications

HDO/MDO Plywood

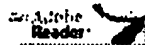
- PDF 308K
- Free Download

Performance Rated Panels

- PDF 1.3MB
- Free Download

Sanded Plywood

- PDF 1.4MB
- Free Download



[More Related Publications]

Product Manufacturers (Plywood)

- Alnsworth Lumber Co. Ltd. (Panels, Rim Board, LSL, OSL)

http://www.spawood.org/level_b.ofm?content=prd_ply_main

22/02/2007

APA Performance Rated I-Joists



APA Performance Rated I-joists (PRI) are "I"-shaped engineered wood structural members that offer strength, versatility and economy for use in residential and light commercial applications. I-joists are comprised of top and bottom flanges of various widths united with webs of various depths. The flanges resist common bending stresses, and the web provides outstanding shear performance.

Resource Efficiency

I-joists can be manufactured using solid sawn lumber or structural composite lumber for the flange components, and plywood or oriented strand board for the web. This versatility allows the manufacturer to make the most efficient use of wood fiber resources in their region while producing products that consistently perform to known standards.



For Detailed and Technical Information

If you're looking for detailed and technical information on I-joists, you may wish to jump directly to the I-joist section of the Publications Store. Here you will find a complete listing of all APA publications featuring I-joists, including case studies, technical sheets, builder tips and more. Many of these publications can be downloaded immediately for free. This section is searchable by keyword.

Consistent Performance

APA Performance Rated I-joists are manufactured to specific dimensions commonly used in residential construction. They are ideal for long spans and readily available from most builder supply sources.

The APA Mark of Quality

14" PRI-40 

APA trademarks appear only on products manufactured by APA member mills. The mark signifies that

panel quality is subject to verification through APA audit— a procedure designed to assure manufacture in conformance with APA performance standards or the standard shown in the mark.

Related Publications

Builder Tips: Storage, Handling & Safety Recommendations for APA Performance Rated I-Joists

- PDF 76K
- Free Download

http://www.apawood.org/level_b.cfm?content=prd_joi_main

22/02/2007

BEST AVAILABLE COPY

4 of 4

Glulam: Lower Cost, Higher Design Value



Glued laminated timber, or glulam, has been re-engineered to work better than ever in a host of construction applications. Increased design values have expanded design capabilities and improved product performance while maintaining a competitive cost. From residential construction to large commercial projects, glulam takes designs to a new level.

Make The Switch

Using glue laminated floor beams in your next commercial or residential project will bring added benefits beyond the structural considerations. Click Floor Beams under the Builder Guides on the left to read why you should make the switch to glulam today.



Glulam Floor Beams

Glulam Enhances Transportation Structures



Glulam offers facility designers versatility, length of life, warmth, aesthetics, and budget-friendliness, making it the perfect product for a transportation structure project. See how designers have employed glulam's benefits by visiting our portfolio of Glulam in Transportation Structures today, or read our new publication on the subject for more information.

Passport to Inspiration

The Okutsu Hot Springs complex combines noted Japanese architect Hirofumi Sugimoto's vision with the versatility of glulam in a variety of buildings in the resort. In the U.S. and around the world, glulam delivers architectural design that soars, strength and dependable performance, and finished structures infused with the warm character of wood.

Find your inspiration by visiting our portfolios of glulam use in churches and schools, or browse through the guides to delve into technical specifications.

Use Glulam With Narrow Wall Bracing

An integral part of APA's Narrow Wall Bracing Method is extending headers to the corner framing. When glulam is used, the extended headers provide a good nailing surface for the sheathing and enhance the lateral strength of the wall. Glulam beams work well in tandem with the



http://www.apawood.org/glu_level_b.cfm?content=prd_glu_main

22/02/2007

BEST AVAILABLE COPY

Plywood - Wikipedia, the Free Encyclopedia

ENCLOSURE (E)

Plywood

From Wikipedia, the free encyclopedia

Plywood was the first type of engineered wood to be invented. It is made from thin sheets of wood veneer, called plies or veneers. These are stacked together with the direction of each ply's grain differing from its neighbors' by 90° (cross-banding).^[1] The plies are bonded under heat and pressure with strong adhesives, usually phenol formaldehyde resin,^[2] making plywood a type of composite material. A common reason for using plywood instead of plain wood is its resistance to cracking, shrinkage, twisting/warping, and its general high degree of strength.



Toy constructed from plywood. Notice the high quality wood veneer (light color) covering the lower quality inner wood (dark color).

Contents

- 1 Types of plywood
- 2 Plywood production
- 3 History
- 4 Plywood Applications
- 5 See also
- 6 References
- 7 Further reading



good quality concrete pouring plate in plywood

Types of plywood

A vast number of varieties of plywood exist, with many conditions and uses. Softwood plywood is usually made either of Douglas fir or spruce, pine, and fir, and is typically used for construction and industrial purposes.^[3] Decorative plywood is usually faced with hardwood, including red oak, birch, maple, lauan (Philippine mahogany) and a large number of other hardwoods.

Plywood meant for indoor use generally uses the less expensive urea-formaldehyde glue which has limited water resistance, while outdoor and marine grade plywood are designed to withstand rot and use a water resistant phenol-formaldehyde glue to prevent delamination and to retain strength in high humidity.

<http://en.wikipedia.org/wiki/Plywood>



A wall lamp made partially from plywood

17/01/2007